

1 S T Q U A R T E R - F Y 0 5

2005 Operational Report to Congress

O C T O B E R - D E C E M B E R 2 0 0 4

Highlights

**Sulfur dioxide and
nitrogen oxide emissions by
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- TVA worked with regional, state, and local officials during the first quarter of FY 2005 to help attract or retain 18,041 jobs and leverage investments of more than \$1.08 billion for the region's economy. TVA provided economic development loans totaling \$2.96 million to Valley companies through distributor and community partnerships.
- Operating revenue for the three months ending December 31, 2004, was \$1.8 billion, or \$57 million higher than for the same period last year. The increase was related primarily to increased sales to large industrial customers and favorable market conditions.
- Sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions by TVA fossil plants during 2004 were the lowest for a calendar year since all 59 generating units have been in operation. SO₂ emissions were 78 percent less than the peak-year emissions in 1977, and NO_x emissions were 78 percent less than the summer level in 1995.
- In FY 2004, the TVA transmission system achieved 99.999 percent reliability to its customers for the fifth year in a row, and TVA is taking action to further ensure system reliability. During the quarter, TVA began using a state-of-the-art energy management system that allows TVA transmission operators to "see" conditions on neighboring systems more clearly. The new Areva system expands on the capabilities of existing monitoring and control systems to ensure that operators have a much clearer picture of grid conditions over a wider area at any given time. Because the power grid in the eastern U.S. and Canada consists of many smaller interconnected transmission systems, problems in one area can affect reliability hundreds of miles away – as the blackout of August 14, 2003, demonstrated. While TVA's system was not seriously affected by the blackout, TVA wants to take steps to prevent such a disturbance from occurring on or cascading through the TVA system.



**TVA's Buffalo Mountain Wind
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- TVA relocated its employees from facilities in Norris, Tennessee, to existing office space in downtown Knoxville as part of its strategic plan to reduce its facilities portfolio. Employees at Muscle Shoals, Alabama, also were relocated from leased space to TVA-owned space. Since adoption of the strategic facilities plan in June 2001, TVA has reduced its office space portfolio by more than 515,000 square feet. The sale of the 247,000-square-foot TVA East Tower in downtown Knoxville is pending exercise of a purchase option.
- In late October, Invenergy, LLC, completed construction of a 27-megawatt wind generating facility on Buffalo Mountain near Oliver Springs, Tennessee. TVA's Buffalo Mountain Wind Park became operational in November 2001 and is now the largest wind park in the Southeast.
- TVA began a bio-life sciences study to assist Valley communities in attracting and fostering bio-life science companies.

ENERGY

- Electricity demand on the TVA system set a record for December at 28,163 megawatts on the morning of December 20, when the average temperature across the region was 18°F. The previous December peak of 26,719 megawatts at 16°F in 2000 was the all-time winter peak at the time.
- Rainfall was 136 percent of normal across the region during the quarter, enabling TVA to achieve hydro generation totals that were 143 percent of normal.
- TVA joined the PJM Interconnection Energy Market and made its first purchase in October. PJM is the world's largest competitive wholesale electricity market. The arrangement allows TVA to purchase power when it is beneficial and does not affect how the TVA transmission system is operated or controlled.
- Year-end data reported during the quarter showed that TVA Nuclear's all-injury rate for fiscal 2004 was the lowest ever at 0.75 per 200,000 employee-hours worked.
- Unit 1 at Sequoyah Nuclear Plant completed a refueling outage in 26 days while employees recorded the lowest collective radiation exposures ever for a refueling outage at the plant.
- In the month of December, Sequoyah Unit 1 achieved, for the first time, the highest possible overall plant performance level as measured by standard safety, reliability, and efficiency performance indicators in the nuclear industry.
- The TVA nuclear organization has completed implementing the Nuclear Regulatory Commission's Design Basis Threat Security Order.
- A force-on-force security exercise was conducted by the Nuclear Regulatory Commission at Sequoyah Nuclear Plant. No security deficiencies were identified in the defensive strategy of the security plan. It was the second such exercise conducted by the NRC using the new Design Basis Threat criteria.

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- Unit 3 at Widows Creek Fossil Plant achieved a national record for continuous operation of a single boiler unit by exceeding 712 days of generation. The unit continued building on the record at the end of the quarter.
- A unit at the John Sevier Fossil Plant set a unit record by operating for 314 consecutive days, surpassing the previous record of 264 days set in 1997.
- Bull Run Fossil Plant was named the second most energy-efficient coal-fired plant in the nation for 2003 by *Electric Light & Power* Magazine in its November/December 2004 issue. Bull Run has been ranked among the nation's 10 most efficient plants by the magazine every year since 1995.
- A new Emergency Load Curtailment Program was jointly approved by TVA, the Tennessee Valley Public Power Association, and local utility personnel and deployed across the Valley. The program improves the ability of TVA and local utilities served by TVA to respond to power system emergencies and prevent a cascading blackout. The new program requires local utilities to develop their own individual plan with details for implementing each step of the program.
- Pat Wood, chairman of the Federal Energy Regulatory Commission, and Joseph McClelland, director of the FERC Reliability Division, visited TVA Operations Centers in November and met with TVA Chairman Glenn McCullough. The visit was to observe initiatives supporting transmission grid reliability and TVA's key role in Eastern Interconnection operations.
- More than 50 independent power producers and transmission customers attended TVA's annual Transmission Customer Conference in Memphis to hear information about transmission processes and interconnection service.
- The transmission organization placed seven new delivery points into service and completed 23 miles of transmission line during the quarter.
- TVA continues to meet with the Tennessee Valley Public Power Association to develop options for a long-term power supply contract.
- CS&M sponsored several pricing workshops throughout the region for interested distributors. The workshops provide local utilities served by TVA with key information on wholesale, retail, and optional rates; power sales statistics; billing; and online connections.
- Variable Price Interruptible prices rose significantly in the past year and are projected to remain at record highs during the coming year. Due to VPI prices exceeding their established price targets, TVA made VPI rebates to distributors and directly served customers of approximately \$15.3 million. VPI power is offered to qualifying industrial customers who can interrupt their demand on a five- or 60-minute notice.

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- Many VPI customers are exploring converting to Flat Price Interruptible Power because it is currently priced lower than projected VPI prices and it eliminates exposure to hourly market pricing volatility. The TVA Board has approved a contract change to allow customers the ability to buy out of their interruptible power load for an exit fee. The fee was set at zero through March 1.
- TVA's *energy right*® Heat Pump Program continued a year-long low-interest loan promotion begun in March 2004 to encourage the installation of high-efficiency heat pumps in the Valley. Results through December 2004 show high-efficiency heat pumps have increased to 73 percent of total installations from 45 percent during the same period in 2003. Of the 125 local utilities that offer heat pump financing through TVA, 119 are participating in the promotion.
- A marketing survey of more than 8,000 residential consumers served by distributors of TVA power showed an advantage for electricity as the safest, cleanest, and most reliable source of energy for the home. Similar surveys have been conducted since 1979 on a 2-3 year cycle. For the first time since the question was added in 1988, electricity was selected as Most Energy Efficient by a majority of the respondents who expressed a preference among natural gas and other sources.

ENVIRONMENT

- For all but the first week in October, water in the reservoir system was at historic high levels for the season as a result of above-average rainfall.
- Six more utilities joined the TVA Green Power Switch® renewable energy program, bringing the total to 72 distributors in six states. Joining in October were Alcorn County Electric Power Association, Chickasaw Electric Cooperative, Dyersburg Electric System, Pickwick Electric Cooperative, Southeast Tennessee Electric Membership Corporation, and Weakley County Municipal Electric System. Lowe's, the largest purchaser of GPS, added six retail stores in Tennessee and Mississippi as subscribers, which brings the Lowe's total to 37 stores participating in GPS.
- A two-year demonstration project on the use of alternative-fuel vehicles in the Great Smoky Mountains National Park ended with TVA's donation of 14 emissions-free electric-powered service vehicles that will be used for park maintenance and outreach activities.
- At the request of TVA, Southern Company, and American Electric Power, the Electric Power Research Institute (EPRI) formed an SO₃ Interest Group to address the formation and mitigation of increased SO₃ that is a by-product of operating NO_x reduction equipment at coal-fired power plants. EPRI will solicit participation of other utilities in the eastern U.S. that have installed catalytic reduction systems to reduce NO_x.
- A new issue of *On the Air*, "Fine Particle Levels in the Great Smokies: Sorting Out All the Sources," was posted on TVA's external Web site at www.tva.gov/environment/air/ontheair/. The report discusses the important role that continuous monitoring of background particles has played in identifying regional sources of pollutants.

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- TVA is serving on a steering committee to develop a national water quality monitoring network in response to a request by the President's Council on Environmental Quality and the National Science and Technology Council.
- TVA briefed the senior staff of the Senate Committee on Energy and Natural Resources on TVA's clean air program.
- TVA hosted the annual Environmental Research Forum in Chattanooga where representatives from Ontario Power Generation (Canada), RWEnergy (Great Britain), and KEMA (Netherlands) attended to share information and identify areas for research efforts.
- TVA limited flows from Kentucky and Barkley Dams during the quarter to allow the Army Corps of Engineers to perform critical maintenance work on another dam downstream on the Ohio River.
- TVA met with the U.S. Department of Agriculture Wildlife Services to review TVA lands on Chickamauga Reservoir for use in a research project to halt the spread of raccoon rabies. Work to date has involved aerial and ground spreading of bait containing a rabies vaccine.
- Annual monitoring for Ruth's golden aster plants (*Pityopsis ruthi*) in the Hiwassee and Ocoee Rivers in Polk County, Tennessee, has been completed. The plants are listed as federally endangered and are found growing only on some large boulders in these two riverbeds. The survey was led by TVA with assistance from the U.S. Forest Service.
- TVA sponsored an introductory workshop on stream dynamics in Blount County, Tennessee, to provide fundamental information about selecting appropriate restoration techniques. This workshop was part of several watershed initiatives and included participants from local, state, regional, and federal agencies.
- Water release needs for 2005, safety, and security were discussed at the annual Fall Ocoee Rafting Coordination meeting between TVA, the U.S. Forest Service, the Tennessee Department of Environment and Conservation, and the Ocoee rafting outfitters. Participants also discussed access fees and progress on the state's Ocoee management plan.
- TVA staff made a presentation to 37 mayors from the Chongqing area of China about TVA processes for land planning, management, disposal, and acquisition. The group is participating in a leadership class sponsored by their urban planning bureau.
- TVA held a workshop on small wind turbine projects in partnership with the U.S. Department of Energy, the Southern Alliance for Clean Energy, and the Tennessee Department of Economic and Community Development.

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ECONOMIC DEVELOPMENT

- TVA contributed to job growth in the region through its economic development partnerships that supported the location or expansion of several businesses and industries:
 - Carolina Comfort announced an expansion of its upholstered furniture plant that will create 150 jobs in Tishomingo County, Mississippi. TVA provided technical assistance.
 - MP Components, Inc., of Grand Rapids, Michigan, is expanding its operations to Cookeville, Tennessee, where the high-tech gauge company will employ 50 people. TVA worked with the state of Tennessee, Tennessee Tech University, and local school systems to secure the company's decision.
 - Alatrade Foods announced an expansion of its poultry processing operations in Albertville, Alabama, that will create 650 jobs, making it one of the five largest manufacturers in Marshall County. TVA is assisting with the expansion.
 - Stylecrest Products, a vinyl siding manufacturer, will invest \$10 million to establish a plant in Russellville, Alabama, that will employ 150 people. TVA assisted with the company's search and assisted the local community.
 - Sergeant's Pet Care, which located in Memphis in 2003, announced a \$1 million expansion that will add 25 jobs, increasing employment to 168 and its investment to \$4 million. TVA provided loan commitments and project assistance.
 - Media General, owner of the Bristol Herald Courier, purchased 11 acres in the Bristol 97 business park where it plans to invest \$18 million in a printing and distribution center. TVA provided conceptual plans and a site evaluation.
 - Kingsford, the charcoal maker, announced it will build a \$20-million plant in Alcorn County, Mississippi, that will create 100 jobs. TVA assisted the community with the recruitment.
 - Seaman Corp. announced the addition of a \$7-million hot-melt production line at its Bristol, Tennessee, plant, where it makes coated fabrics for roofing. The expansion will create 25 jobs and retain 15 jobs. TVA provided a loan to the company in 2003 and will provide growth credits for the expansion in partnership with the Bristol Tennessee Electric System.
 - EWA Government Systems, Inc., will locate an engineering and software design center at Western Kentucky University's Small Business Accelerator in Bowling Green. The center will create 20 jobs and support work for Homeland Security and national intelligence. TVA provided financial and technical assistance.

- The U.S. Department of Agriculture awarded a \$150,000 Rural Business Opportunity Grant for the Ocoee region to fund continued strategic economic development planning for a regional initiative partnership among North Carolina, Tennessee, and Georgia.

CORPORATE

Interest expense for the three months ending December 31, 2004, was \$318 million, which was \$15 million lower than the same period last year.

- TVA sold a portfolio of power distributor loans in December and used the proceeds to call an outstanding higher-interest bond issue. The net result was a \$55 million reduction in debt and an annual savings of \$275,000 in interest expense.
- Fuel and purchased power costs increased by \$47 million for the quarter ended December 31, 2004, compared to a year ago. The increase was primarily due to higher coal prices and increased fossil and nuclear generation.
- Interest expense for the three months ending December 31, 2004, was \$318 million, which was \$15 million lower than for the same period last year. The decrease was due primarily to lower long-term interest rates compared to the prior year.
- Use of the Owner Controlled Insurance Program, which consolidates individual contractors' insurance coverages into one policy provided by TVA, saved an estimated \$2.9 million during the first quarter. Since its inception in April 1992, the program has generated an estimated savings of \$112.2 million.
- The TVA Retirement System Board approved a 2.42 percent cost-of-living allowance in the monthly pension and supplemental benefits. The allowance is based on the Consumer Price Index. The board also named TVA retiree Clem Schonhoff to a term that expires October 31, 2006.
- A TVA Inspector General audit of computer security found that TVA is in compliance with requirements of the Federal Information Security Management Act. TVA's annual FISMA report was submitted during the quarter to the Office of Management and Budget and various committees of Congress.
- Staff members from the Tennessee Valley congressional caucus were briefed by TVA Police about security measures being taken in coordination with Homeland Security needs. The briefing covered security and protection for employees, visitors, facilities, and critical infrastructure.
- A procurement standardization team compiled \$5.98 million in savings by standardizing 31 items and service contracts during the past year. The team recorded additional savings on supplier-managed inventory.
- A Contractor Workforce Management team implemented a monthly reporting system that provides information TVA needs to manage its contractor workforce at the lowest cost.

TVA is developing a plan that will define the parameters for possible commercial development of TVA properties at the Muscle Shoals Reservation.

- TVA implemented an incentive program to promote healthy lifestyles among employees and improve medical plan cost management. In the voluntary program, employees complete health risk appraisals and blood tests to measure certain health risk factors. The employees receive \$50 for participating in the initial assessment and can earn up to \$200 annually by improving health risk factors.

STATE NEWS

ALABAMA

- TVA is developing a plan that will define the parameters for possible commercial development of TVA properties at the Muscle Shoals Reservation.
- TVA approved a loan for equipment purchases by Tiger Shredding, Inc., a tenant at the Shoals Entrepreneurial Center business incubator in Florence. The center also announced the location of its fourth facility in the Shoals.
- A final report was published on TVA's Remediation of Aquatic Invasive Plants project that focused on Guntersville Reservoir in Alabama. The report evaluated current control operations and suggested improvements.
- The Guntersville Aquatic Plant Stakeholder Group held its annual meeting to review the 2004 implementation of the Aquatic Plant Management Plan and discuss issues and opportunities for improvement during the 2005 season. The Group determined that embayment areas were becoming an increasing problem and should be addressed in the Plan.
- Repairs are scheduled to begin in January after a safety inspection in December detected increased seepage at Bear Creek Dam in northwestern Alabama. A thorough inspection determined that immediate action was not necessary.

GEORGIA

- TVA approved a minority business development loan for Tennessee Turbocharger Components, LLC, of Rossville. The project will create 27 jobs and leverage \$950,000 in capital investment.
- TVA is working with the Association of County Commissioners of Georgia and the Environmental Protection Agency to develop an educational CD presentation about air quality. The presentation will help answer questions from local government officials about air pollution and air quality.

KENTUCKY

- TVA assisted local and state leaders in a community economic opportunity assessment for Mayfield/Graves County. Recommendations were presented and a consensus on next steps was reached.

TVA began a safe boating information project for marinas in Marshall County in partnership with the Kentucky Department of Fish & Wildlife.

- TVA began a safe boating information project for marinas in Marshall County in partnership with the Kentucky Department of Fish & Wildlife, the Marshall County Chamber of Commerce, and the marinas. Signage will be placed at marinas and boat ramps with information about navigation markers and reservoir pool levels.
- A carbon sequestration project that is testing the use of wastewater from ash ponds and by-product material from emissions control equipment to enhance tree growth is showing effective results at the end of its fourth year at Paradise Fossil Plant. The Carbon Capture and Water Emissions Treatment System applies the wastewater and by-product material to commercial hardwood trees planted on marginally reclaimed coal-mined land near the plant.

MISSISSIPPI

- TVA led a workshop for state and local leaders on developing requests for proposals as part of the Team Mississippi economic development initiative.
- TVA and the Tellico Reservoir Development Agency hosted a two-day reservoir tour for a 35-member delegation from Mississippi that is involved in planning two reservoir projects in Mississippi.
- TVA, the Mississippi Development Authority, and the Institute of Furniture Manufacturing and Management at Mississippi State University co-sponsored a conference to explore strategies for improving the competitiveness of the state's furniture manufacturing industry.
- TVA delivered community leadership development programs in Prentiss County and Starkville/Oktibbeha County.
- TVA provided an economic development loan to the city of Olive Branch to build infrastructure needed for a \$4.6 million expansion by the Trex Company where 225 people are employed. The expansion adds to the company's \$40 million investment.

TENNESSEE

- TVA led a strategic planning workshop for more than 120 leaders from the 14-county Upper Cumberland region. The group focused on actions to improve development opportunities.
- TVA worked with 17 other organizations to conduct the 16th Annual Tennessee River Rescue. The event involved about 1,000 volunteers working on 16 cleanup sites along Chickamauga and Nickajack Reservoirs.
- TVA, the Tennessee Department of Environment and Conservation, and the Emory River Watershed Association developed a Watershed Restoration Plan for Crab Orchard Creek, an Emory River tributary that drains a 47-square-mile area in Morgan and Cumberland Counties. The creek and its tributaries are classified by the state as impaired due to previous mining.

TVA assisted the Monteagle Chamber of Commerce in completing a five-year plan for improvements to the downtown business district.

- More than 300 community, business, and elected leaders attended the 2004 Economic Development Summit sponsored by TVA in Johnson City. TVA Director Bill Baxter was the luncheon keynote speaker.
- TVA assisted the Marshall County Chamber of Commerce in developing a strategic plan for increasing membership, improving services, and supporting small business and tourism development.
- TVA assisted the Monteagle Chamber of Commerce in completing a five-year plan for improvements to the downtown business district. TVA also will develop design concepts for improvements.
- TVA and the Sequachee Valley Electric Cooperative co-sponsored the annual Marion County Industrial Appreciation Event.
- TVA conducted a workshop on improving the quality of responses to site consultants and industrial prospects for the East Tennessee Economic Development Council.
- TVA is assisting the Memphis Regional Chamber of Commerce and Burlington Northern and Santa Fe Railway Company in conducting a growth and marketing study for Memphis Airport Industrial Park.
- TVA helped the Millington Chamber of Commerce establish goals and objectives for 2005. TVA also will develop architectural renderings for a speculative building and for improvements at Millington Municipal Airport.
- TVA and Tennessee officials are evaluating sites in Tipton County for an industrial park and will provide assessments of potential sites to the community.
- TVA is working with Forward Sumner, the Center for Economic Development and Resource Stewardship, and a local commercial developer to incorporate an environmentally beneficial site design into the Sumner Pointe retail and entertainment development project in Hendersonville.
- TVA approved a loan for the Huntingdon Industrial Development Board in Carroll County to finance a speculative industrial building. TVA worked with the Carroll Bank & Trust and the U.S. Department of Agriculture to leverage \$1 million in capital investment for the project.
- TVA approved a loan for M.S.K. Construction, Inc., which is a tenant at the Cleveland-Bradley Business Incubator.
- TVA approved a minority business loan for Natural Sorb II, LLC, of Jacksboro. The woman-owned company is expected to hire an additional 350 employees and make a \$175,000 capital investment.

**TVA is piloting an “Adopt a
Shoreline” program on
Norris Reservoir.**

- TVA approved a minority business loan for Pierce Metals, Inc., of Bristol to finance construction on a new production area and purchase equipment. The company will add 10 jobs and \$150,000 in capital investment.
- TVA approved a loan for Protomet Corporation of Oak Ridge to help the company create five jobs and leverage \$150,000 in capital investment.
- TVA approved a loan for TMIO, Inc., of Chattanooga to help the company expand and modernize its plant. The project will create 150 jobs and \$2.2 million in investment.
- TVA approved a loan for Bert-Co Industries in Pulaski to help the company purchase an industrial building. The project will create 22 jobs and \$11.1 million in investment.
- TVA approved a loan for Culture Systems of Chattanooga, which is a tenant in the Chattanooga-Hamilton County Business Development Center. The company has grown from two to 12 employees in the past year and anticipates additional growth.
- TVA approved a minority business loan for Integrated Marketing Company, LLC, of Erwin. The woman-owned company will add 110 jobs and \$429,000 in capital investment for increased space and equipment.
- TVA approved a loan for Tanner Industries of Fayetteville to renovate an existing facility for First Class Printing, Inc. The project will create 60 jobs and a capital investment of \$930,000.
- TVA approved a loan to expand employment at Honey Do Services, Inc., which is a tenant at the Cleveland-Bradley Business Incubator.
- TVA is piloting an “Adopt a Shoreline” program on Norris Reservoir to encourage interested groups, businesses, and individuals to “adopt” portions of shoreline for litter removal, similar to the Adopt a Highway Program.

VIRGINIA

- TVA participated in a mussel restoration effort in the Clinch River near Cedar Bluff. Juveniles of five mussel species, including the endangered purple bean mussel, were raised at Buller Fish Cultural Station and released into the river at the site of a 1998 chemical spill.
- As part of ongoing efforts of the Saltville National Pollution List Site Trustee Council, TVA biologists participated in a mussel injury study in the North Fork Holston River near Saltville to determine the effects of contaminated waters.
- More than 16 tons of trash and litter were removed from streams in southwestern Virginia during the first Regional Stream Cleanup. More than 300 volunteers participated in the event organized by the Upper Tennessee River Roundtable as part of Clean Virginia Waterways, a statewide effort to clean up streams and collect information that will help find ways to reduce litter.